REMARKS/ARGUMENTS

1. Claims 1-4 are rejected, and claim 5 is stated to be allowable if amended to include all the limitations of the parent and any antecedent claims. Claim 5 has been so amended, and should now be allowable.

2. Claims 1-4 are rejected as being anticipated by Zappe '905. This basis for rejection is traversed, because the recitations of independent claim 1 distinguish over Zappe.

More particularly, claim 1 recites inter alia

> "an elongated conductor . . . and being configured for producing a generally planar magnetic field within a spatial region adjacent said conductor''

which corresponds to Zappe's conductor 14. Claim 1 also recites

> ``a magnetic field sensing device which produces a signal voltage in response to a magnetic field . . . therethrough . . ., said magnetic field sensing device being located in said spatial region . . ., whereby said magnetic field sensing device produces a magnetic-field-representative signal voltage in response to said magnetic field;''

which finds no correspondence in Zappe, since the only device in Zappe which produces a voltage representing the signal is circuit 32. Detection circuit 32 of Zappe is not ``located in said spatial region'' of conductor 14, and cannot be in ``said spatial region'' because its superconducting loop 34 carries a current during the sensing interval, which current would perturb the current produced by conductor 14 in superconducting sensing loop 18, thereby rendering the measurement meaningless.

In addition, independent claim 1 recites inter alia

``controllable test current generating means magnetically coupled to said spatial region, for, when energized, generating a predetermined current flow for generating a test magnetic field component in said spatial region, . . . whereby said magnetic field sensing device produces a magnetic-field-representative signal voltage related to the magnitude of the sum of said subject electric current and said predetermined current;''

which also finds no correspondence in Zappe. More particularly, the only ``test current'' which the Zappe arrangement generates is that produced by detector circuit 32. This test current is not ``in said spatial region'' as recited. Furthermore, Zappe has no ``magnetic field sensing device'' that ``produces a magnetic-field-representative signal voltage related to the magnitude of the sum of said subject electric current and said predetermined current.''

Thus, claim 1 distinguishes in at least three different aspects from Zappe, and is patentable thereover in a § 102 sense over Zappe.

Claims 2, 3, and 4 depend from claim 1, and should be patentable therewith for that reason alone.

In addition, claim 2 is independently patentable over Zappe, by virtue of the recitation

``wherein said magnetic field sensing device is one of a giant magnetoresistive device and spin-dependent tunneling device''

Claim 3 is also independently patentable, by virtue of

``said test current generating means is galvanically coupled to said elongated conductor adjacent said spatial region, for causing said test current to flow through said elongated conductor,''

not found in Zappe.

3. Claims 1 through 4 are rejected as anticipated by Gary '665. This basis for rejection is traversed, because the recitations of claim 1 distinguish over Gary. Claim 1 recites inter alia

> "controllable test current generating means magnetically coupled to said spatial region, for, when energized, generating a predetermined current flow for generating a test magnetic field component in said spatial region, which test magnetic field component is generally parallel with, and in the same polarity as, said planar magnetic field, whereby said magnetic field sensing device produces a magnetic-field-representative signal voltage related to the magnitude of the sum of said subject electric current and said predetermined current;

which is not found in Gary, because the test magnetic field in Gary is not of the same polarity, but of the opposite polarity, to the field to be sensed.

4. Reconsideration and allowance are requested of amended claims 1 and 5, and of previously presented claims 2-4..

5. The number of claims is unchanged by the amendment. If there are any fees due and owing with regard to this amendment, please charge our deposit account #50-2061.

FOR THE APPLICANT(S)

by 

William H. Meise
Attorney for Applicant
Reg. No. 27,574

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Duane Morris LLP
100 College Road West, Suite 100
Princeton, NJ 08540
609-919-4453